

**ENVIRONMENTAL IMPACT STATEMENT
GUIDELINES
and
SCOPING DOCUMENT**

Labrador-Island Transmission Link

Nalcor Energy

**Issued by the Government of Newfoundland and Labrador and
the Government of Canada**

May, 2011

PREFACE

On February 2, 2009, Nalcor Energy (the Proponent) submitted a project registration/project description for the Labrador-Island Transmission Link (the Project). On September 16, 2009, an amendment to the project registration/project description was submitted. The amendment removed any reference to the proposed route through Gros Morne National Park, which is no longer under consideration. On November 15, 2010 Nalcor Energy identified further refinements to their project development concept and additional design options. The Project involves the construction and operation of an approximately 1,100 km long transmission line and associated infrastructure within and between Labrador and the Island portion of the Province. One option would see the High Voltage Direct Current (HVDC) overhead transmission line commence at a converter station at Gull Island (one option) in central Labrador, proceed southeast across Labrador, cross the Strait of Belle Isle via submarine cables, and proceed across Newfoundland to end at a converter station at Soldiers Pond on the Island's Avalon Peninsula. Another potential option would see the overhead transmission line commence at a converter station at or near the Muskrat Falls site in central Labrador. If that was the case, the Labrador transmission corridor would potentially extend from Muskrat Falls to the Trans Labrador Highway (Phase 3, TLH3) and then follow along TLH3 to its southernmost point, before picking up the previously identified corridor. On April 14, 2011 Nalcor Energy identified an alternative cable crossing option, in the Strait of Belle Isle. The additional option identifies Shoal Cove as a possible landing site on the Island portion of the Province. Shoal Cove is located several kilometres northeast of Mistaken Cove, which was one of the original proposed cable landing sites. The use of "shore electrodes" at locations along the Labrador shore of the Strait of Belle Isle area and Conception Bay South is proposed. The wood-pole transmission line connecting the Labrador converter station to the Strait of Belle Isle electrode will follow along the same route / right-of-way as the HVDC transmission line itself from the lower Churchill River to the submarine cable landing site at the Strait. From there it will follow the existing Labrador Straits highway and/or power lines northeast to the electrode site, which will be located at some point between the cable landing site and the Pinware area. Similarly, the wood-pole line from the Soldiers Pond converter station to the Conception Bay South shore electrode will generally follow along existing transmission lines and/or roadways in that region. The steel lattice transmission towers for the HVDC line will be approximately 43m in height and carry three wires (two conductors and a ground).

On March 23, 2009, the Proponent was advised by the Minister of Environment and Conservation that an Environmental Impact Statement (EIS) is required for the Project under the Newfoundland and Labrador *Environmental Protection Act* (EPA). The Project is also subject to the *Canadian Environmental Assessment Act* (CEAA).

Canada and Newfoundland and Labrador intend to harmonize the environmental assessment processes to the extent possible to ensure that the requirements of the EPA and the CEAA that apply to the Project are met in an effective and timely manner. As a first step toward that objective, the two governments have agreed that a single set of EIS guidelines is the most efficient and effective way to guide the Proponent in preparing an EIS that will provide the type and quality of information and conclusions on environmental effects required to satisfy their respective legislative requirements.

These Guidelines are intended to assist the Proponent in its preparation of the EIS. The purpose of the EIS is to identify alternatives to the Project, alternatives methods for carrying it out, the environment that will be affected, the important environmental effects associated with the Project, measures that are required to mitigate against any adverse effects and the significance of residual environmental effects.

The EIS shall contain a review and assessment of all available information pertinent to the conduct of this environmental assessment as well as such additional new information or data as provided by the Proponent or requested by Canada or Newfoundland and Labrador. Component Studies shall address baseline data requirements to support the evaluation of environmental effects and/or the development of mitigation measures as well as monitoring and follow up programs. The Guidelines include the information required under Section 57 of the EPA, and the information necessary to address the factors set out in subsections 16(1) and 16(2) of the CEAA, both of which are included in **Appendix A**. As more specific information is provided and as additional baseline information is gathered, Canada and/or Newfoundland and Labrador may require other issues, concerns and potential effects to be considered by the Proponent.

The draft Guidelines were subject to a 30 day Aboriginal consultation period and then a 40 day public consultation period. After consideration of the comments received from Aboriginal groups and the public, the Guidelines have been finalized, submitted to the Newfoundland and Labrador Minister of Environment and Conservation for approval and subsequently issued to the Proponent.

TABLE OF CONTENTS

PREFACE	2
SECTION 1 - BACKGROUND	6
1.1 Purpose of the Guidelines	6
1.2 Proposed Project	6
1.3 Environmental Assessment Process	6
1.4 Federal Regulatory Requirements	7
SECTION 2 - GUIDING PRINCIPLES	9
2.1 Environmental Assessment: A Planning Tool	9
2.2 Aboriginal and Public Participation	9
2.3 Aboriginal Traditional and Community Knowledge	9
2.4 Sustainable Development	10
2.5 Precautionary Principle	10
SECTION 3 – PREPARATION AND PRESENTATION OF THE EIS	12
3.1 Study Strategy and Methodology	12
3.2 Presentation of the EIS	12
SECTION 4 – OUTLINE OF THE ENVIRONMENTAL IMPACT STATEMENT	14
4.1 Executive and Plain Language Summaries	14
4.1.1 Executive Summary of the EIS	14
4.1.2 Plain Language Summary of the EIS	14
4.2 Introduction	14
4.2.1 Identification of Proponent	14
4.2.2 Overview of the Project	15
4.2.3 Purpose of the EIS	15
4.2.4 Relationship to Legislation, Permitting, Regulatory Agencies & Policies	15
4.2.5 Land Claims Agreements and Interim Agreements	15
4.2.6 Other Registrations	16
4.3 The Proposed Undertaking	16
4.3.1 Need, Purpose and Rationale of the Project	16
4.3.2 Alternatives	16
4.3.2.1 Alternatives to the Project	16
4.3.2.2 Alternative Means of Carrying Out the Project	17
4.3.3 Project Description	19
4.3.3.1 Spatial and Temporal Boundaries	20
4.3.4 Construction	20
4.3.5 Operation and Maintenance	24
4.3.6 Decommissioning	25
4.4 Environment	25
4.4.1 Identification of Issues and Selection of Valued Environmental Components (VECs)	25
4.4.2 Study Areas	26
4.4.3 Previous Development	27
4.4.4 Description of the Existing Environment	27
4.4.4.1 Atmospheric Environment	28
4.4.4.2 Aquatic Environment (Freshwater and Marine)	29
4.4.4.3 Terrestrial Environment	29
4.4.4.4 Land and Resource Use	30
4.4.4.5 Cultural Heritage Resources	31
4.4.4.6 Communities	31
4.4.4.7 Economy, Employment and Business	32
4.4.5 Component Studies	32

4.4.6	Data Gaps.....	33
4.4.7	Future Environment Without the Project	34
4.5	Environmental Effects	34
4.5.1	General.....	34
4.5.2	Accidents and Malfunctions.....	36
4.5.3	Cumulative Effects.....	37
4.5.4	Renewable Resources	37
4.5.5	Effects of the Environment on the Project	38
4.6	Environmental Protection	38
4.6.1	Mitigation.....	38
4.6.1.1	Compensation.....	40
4.6.2	Emergency Response / Contingency Plans	40
4.6.3	Rehabilitation	41
4.6.4	Monitoring and Follow-up Programs	41
4.7	Residual Effects and Determination of Significance	43
4.8	Consultation with Aboriginal Groups and Communities	43
4.9	Public Participation.....	44
4.10	Environmental Protection Plan.....	44
4.11	Commitments Made in EIS	45
4.12	References Cited	45
4.13	Personnel	45
4.14	Copies of Reports	45
	<i>Bibliography</i>	<i>46</i>
	<i>APPENDIX A.....</i>	<i>48</i>
	<i>APPENDIX B.....</i>	<i>50</i>

SECTION 1 - BACKGROUND

1.1 Purpose of the Guidelines

The purpose of this document is to identify for the Proponent, Nalcor Energy, and interested parties, the nature, scope and extent of the information and analysis required in the preparation of the EIS. The Proponent will prepare and submit an EIS that will identify alternatives to the Project, alternative methods for carrying it out, the environment that will be affected, the important environmental effects associated with the Project, measures that are required to mitigate against any adverse effects and the significance of residual environmental effects.

1.2 Proposed Project

The Project involves the construction and operation of an approximately 1,100 km long transmission line and associated infrastructure within and between Labrador and the Island portion of the Province. One option would see the High Voltage Direct Current (HVDC) overhead transmission line commence at a converter station at Gull Island (one option) in central Labrador, proceed southeast across Labrador, cross the Strait of Belle Isle via submarine cables, and then across Newfoundland to end at a converter station at Soldiers Pond on the Island's Avalon Peninsula. Another potential option would see the overhead transmission line commence at a converter station at or near the Muskrat Falls site in central Labrador. If that was the case, the Labrador transmission corridor would potentially extend from Muskrat Falls to the Trans Labrador Highway (Phase 3, TLH3) and then follow along TLH3 to its southernmost point, before picking up the previously identified corridor. On April 14, 2011 Nalcor Energy identified an alternative cable crossing option, in the Strait of Belle Isle. The additional option identifies Shoal Cove as a possible landing site on the Island portion of the Province. Shoal Cove is located several kilometres northeast of Mistaken Cove, which was one of the original proposed cable landing sites. The use of "shore electrodes" at locations along the Labrador shore of the Strait of Belle Isle area and Conception Bay South is proposed. The wood-pole transmission line connecting the Labrador converter station to the Strait of Belle Isle electrode will follow along the same route / right-of-way as the HVDC transmission line itself from the lower Churchill River to the submarine cable landing site at the Strait. From there it will follow the existing Labrador Straits highway and/or power lines northeast to the electrode site, which will be located at some point between the cable landing site and the Pinware area. Similarly, the wood-pole line from the Soldiers Pond converter station to the Conception Bay South shore electrode will generally follow along existing transmission lines and/or roadways in that region. The steel lattice transmission towers will be approximately 43m in height and carry three wires (two conductors and a ground).

1.3 Environmental Assessment Process

In February 2009, in accordance with section 5 of the Federal Coordination Regulations, Health Canada (HC), Indian and Northern Affairs Canada, Fisheries and Oceans Canada (DFO), Environment Canada (EC), Transport Canada (TC), Natural Resources Canada (NRCan), Parks Canada Agency (PCA), Department of National Defence (DND), Royal Canadian Mounted Police (RCMP) and Industry Canada (IC) were consulted to determine whether these departments were likely to exercise any powers in respect of the project.

Under section 5 of the *Canadian Environmental Assessment Act* (CEA Act), an environmental assessment is required for this Project because Fisheries and Oceans Canada may issue a permit or license under subsection 35(2) of the *Fisheries Act*, Transport

Canada may issue an approval under Part 1, Section 5 of the *Navigable Waters Protection Act* and Environment Canada may issue a permit for the disposal of material at sea under the *Canadian Environmental Protection Act*.

Industry Canada has indicated that additional information regarding the installation of telecommunication towers adjacent the Strait of Belle Isle is required before it can determine if it requires an environmental assessment of the project.

Parks Canada Agency, Department of National Defence, Natural Resources Canada and Health Canada have indicated that they possess expert information that could be useful to the environmental assessment.

Nalcor's project proposal is described in the federal *Comprehensive Study List Regulations* at Part II – Electrical Generating Stations and Transmission Lines – paragraph 7: “The proposed construction of an electrical transmission line with a voltage of 345 kV or more that is 75 km or more in length on a new right of way”. In accordance with section 11.01 of the CEA Act, the Canadian Environmental Assessment Agency (Agency) has assumed the powers and is performing the duties and functions of the Responsible authorities in relation to the comprehensive study for this project.

This Project is also being assessed by the Government of Newfoundland and Labrador under Part X of the EPA, pursuant to Section 34(1)(a) and 34(1)(d) of the *Environmental Assessment Regulations*.

The scope of the project for the purposes of both the federal and provincial environmental assessments includes all aspects of the proposal as described in the revised (September 15, 2009) Environmental Assessment Registration/Project Description document and the additional changes in project description dated November 15, 2010.

1.4 Federal Regulatory Requirements

In accordance with the Law List Regulations of the CEA Act, the following Responsible Authorities may make a course of action decision consistent with its regulatory responsibilities.

DFO has determined that the following components of the project will likely result in the harmful, alteration, disruption or destruction (HADD) of fish habitat and will require an Authorization from DFO pursuant to subsection 35(2) of the *Fisheries Act*:

- the construction and operation of the sub-sea cable crossing and shoreline approaches across the Strait of Belle Isle;
- the construction and operation of shore electrodes along the Labrador shore of the Strait of Belle Isle and Conception Bay South;
- the construction and operation of watercourse crossing structures; and
- all other works, temporary structures or activities related to the construction, operation, maintenance or decommissioning of the above mentioned works and activities impacting fish and fish habitat (e.g. blasting, trenching, armouring etc...)

TC is participating in this environmental assessment as a Responsible Authority because it may potentially be required to issue an approval(s) under Part 1, Section 5 of the *Navigable Waters Protection Act* for the following project components to enable the project to be carried out in whole or in part;

- the construction and installation of the sub-sea cable crossing and shoreline approaches across the Strait of Belle Isle,
- the construction and installation of shore electrodes along the Labrador shore of the Strait of Belle Isle and Conception Bay South, and
- potentially the installation of aerial cables (transmission, electrode, communication, etc.) and crossing structures over navigable waterways.

EC has determined that the following components of the project may require a permit from EC for the disposal of material at sea pursuant to the section 127(1) of the *Canadian Environmental Protection Act*:

- the construction of the sub-sea cable crossing and shoreline approaches across the Strait of Belle Isle, and
- the construction of shore electrodes along the Labrador shore of the Strait of Belle Isle and Conception Bay South.

SECTION 2 - GUIDING PRINCIPLES

The EIS shall demonstrate adherence to the basic principles of environmental assessment as set out below.

2.1 Environmental Assessment: A Planning Tool

Environmental assessment is a planning tool that enables consideration of the potential effects of a project in a careful and precautionary manner before actions are taken to allow that project to proceed. It is a process for identifying a project's potential interactions with the environment, predicting environmental effects, identifying mitigation measures and evaluating the significance of residual environmental effects in order to promote sustainable development, protect the environment, and facilitate the wise management of natural resources. If the project proceeds, the environmental assessment process also provides the basis for setting out the requirements for monitoring and reporting to verify compliance with the terms and conditions of approval and the accuracy and effectiveness of predictions and mitigation measures.

2.2 Aboriginal and Public Participation

Aboriginal and public participation is a central objective of an environmental assessment process and a means to ensure that a proponent considers and responds to Aboriginal and public concerns. In preparing the EIS, the Proponent shall inform and consult with all potentially affected Aboriginal and local communities, interested regional and national organizations and resource users. The Proponent shall prepare a "plain-language summary" of the EIS in accordance with 4.1.2.

Meaningful public involvement can only take place if Aboriginal groups and the public have a clear understanding of the nature of the proposed Project as early as possible in the environmental assessment process. Therefore, it is recommended that the Proponent:

- continue to provide up-to-date information, as it becomes available, to Aboriginal groups and the public and especially to the communities likely to be affected by the Project;
- involve the main interested parties in determining how best to deliver that information, that is, the type of information required, format and presentation methods, as well as the need for community meetings;
- explain the results of the EIS in a clear and direct manner to make the issues comprehensible to the widest possible audience; and
- consider and acknowledge all requests for consultation with Aboriginal groups during project approvals and throughout the life of the project.

2.3 Aboriginal Traditional and Community Knowledge

Populations living in proximity to the Project may have substantial and distinct knowledge, which may be essential to the assessment of the effects of the Project, and their mitigation. Aboriginal traditional and community knowledge of the existing environment shall be an integral part of the EIS, to the extent that it is available to the Proponent.

In environmental assessment, Aboriginal traditional and community knowledge may be regarded as the knowledge, understanding and values that residents of Aboriginal and local communities have in relation to the environment and the potential environmental effects of the Project and proposed mitigation measures. This knowledge is based on personal

observation, collective experience and/or oral transmission. This knowledge may also have been studied and inventoried by specialists in such areas as anthropology, sociology, ethnology, heritage, history, medicine, environment, ecology and biology, and all such studies and inventories may be relevant.

Aboriginal traditional and community knowledge assists in understanding, including the inter-relationships, among such matters as: ecosystem function; resource abundance, distribution and quality; social and economic well-being; and use of the land and resources. It also informs the development of adequate baseline information, identification of key issues, prediction of effects, and assessment of their significance, all of which are essential to the EIS and its review.

2.4 Sustainable Development

Sustainable development seeks to meet the needs of present generations without compromising the ability of future generations to meet their own needs.

The objectives of sustainable development are:

- the preservation of ecosystem integrity, including the capability of natural systems to maintain their structures and functions and to support biological diversity;
- the respect for the right of future generations to the sustainable use of renewable and non-renewable resources; and
- the attainment of durable and equitable social and economic benefits.

Promotion of sustainable development is a fundamental purpose of environmental assessment, and the Proponent shall include in the EIS consideration of:

- the extent to which biological diversity is affected by the Project;
- the capacity of renewable resources that are likely to be significantly affected by the Project to meet the needs of present and future generations; and
- the extent, distribution and duration of social and economic benefits.

The proponent shall strive to integrate these factors into the planning and decision-making process for the Project, including seeking the views of interested parties and shall report on the results in the EIS.

2.5 Precautionary Principle

One of the purposes of environmental assessment is to ensure that projects are considered in a careful and precautionary manner before action is taken in connection with them in order to ensure that such projects do not cause significant adverse environmental effects.

Principle 15 of the 1992 Rio Declaration on Environment and Development states that “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”

In applying the precautionary approach, the Proponent shall:

- demonstrate that the proposed Project is examined in a careful and precautionary manner;
- outline the assumptions made about the effects of the Project and the approaches to prevent and minimize these effects;

- identify where knowledge uncertainty exists in the predictions of the environmental effects of the Project; and
- identify any follow-up and monitoring activities planned, particularly in areas where knowledge uncertainty exists in the prediction of the effects of the Project.

SECTION 3 – PREPARATION AND PRESENTATION OF THE EIS

3.1 Study Strategy and Methodology

The Proponent shall explain and justify all methods used in the preparation of the EIS. In describing its overall approach, the Proponent shall explain how it used scientific, engineering, Aboriginal traditional and community knowledge. All hypotheses and assumptions shall be clearly identified and justified. All data collection methods, models and studies shall be documented so that the analyses are transparent and reproducible. The degree of certainty, reliability and sensitivity of models used to reach conclusions shall be indicated.

All conclusions regarding the receiving environment and predictions as well as the assessment of environmental effects shall be substantiated. The Proponent shall support all analyses, interpretation of results and conclusions with a review of the appropriate literature, providing all references required and indicating the public availability of all works consulted. Any contribution based on Aboriginal traditional and community knowledge shall be specified and the sources identified.

The EIS shall identify all significant gaps in knowledge and explain their relevance to key conclusions drawn. The Proponent shall indicate the measures applied to address these gaps. Where the conclusions drawn from scientific and technical knowledge are inconsistent with the conclusions drawn from Aboriginal traditional or community knowledge, the Proponent shall present the various points of view as well as a statement of the Proponent's conclusions.

3.2 Presentation of the EIS

The EIS and all associated reports and studies shall use System International (SI) units of measure and terminology throughout. The Proponent shall present the EIS in the clearest language possible. However, where the complexity of the issues addressed requires the use of technical language, a glossary defining technical words and acronyms shall be included. Lines shall be numbered in the margin at appropriate intervals.

The EIS should be presented in the sequence outlined in these Guidelines or the Proponent may decide that the information is better presented following a different sequence. For clarity and ease of reference, the EIS shall include a Table of Concordance that cross-references the EIS Guidelines so that information requirements identified in the Guidelines are easily located in the EIS. The EIS shall refer to rather than repeat information already presented in other sections of the document. However, it is important that underlying limitations, uncertainties, and assumptions of all environmental predictions, especially those that support major statements or conclusions, be described in the body of the EIS rather than simply referencing the component studies. A key subject index is to be provided giving locations in the text by volume, section and sub-section.

The Proponent shall provide charts, diagrams and maps wherever useful to clarify the text, including a depiction of what the developed Project sites would look like from both an aerial and terrestrial perspective. Maps shall use a limited number of common scales to allow for comparison and overlay of mapped features. Maps shall indicate common and accepted local place names. The Proponent shall present information, where technically feasible, using a standard Geographic Information System (GIS) mapping (digital) format with maps geo-referenced.

Throughout the preparation of the EIS, the Proponent should freely cite experiences from other environmental assessments, with emphasis on Newfoundland and Labrador and other Canadian examples, to support the methodology and value of the information provided, or as reasons in support of the selection of a preferred alternative.

Prior to submission of the EIS and Component Studies, discussions will be held with the Government of Canada and the Government of Newfoundland and Labrador on the numbers of paper and electronic copies to be submitted. They shall be written in English and printed or copied on two sides of recycled *Environmental Choice* and/or *Forest Stewardship Council*-certified paper. The paper choice shall be conspicuously stated. Where possible, maps and other attachments should be scaled to fit on standard size papers to facilitate copying. The electronic version of the EIS shall be submitted in a format so that it may be posted on the internet and in a manner which shall facilitate downloading and printing in part or in whole.

To facilitate the identification of the documents submitted and their coding in the Canadian Environmental Assessment Registry, the title page of the EIS and its related documents should contain the following information:

- project name and location;
- title of the document, including the term “environmental impact statement”;
- subtitle of the document;
- name of the Proponent;
- names of the consultants, as appropriate;
- date.

SECTION 4 – OUTLINE OF THE ENVIRONMENTAL IMPACT STATEMENT

4.1 EXECUTIVE AND PLAIN LANGUAGE SUMMARIES

4.1.1 Executive Summary of the EIS

The executive summary shall include identification of the Proponent, a brief project description, predicted environmental and socio-economic effects, mitigation measures, residual effects, follow-up and monitoring programs, an outline of the component studies, and a summary of the fundamental conclusions of the EIS. The executive summary shall also include a review of Aboriginal concerns about the Project and the key findings of the Aboriginal consultation activities undertaken by the Proponent.

The executive summary should be written in terms understandable to the general public and in such a manner as to allow reviewers to focus on items of concern.

4.1.2 Plain Language Summary of the EIS

The plain language summary shall provide a short description of the Project, its predicted effects and their significance, and proposed mitigation. It shall also include a schedule of major Project steps, before, during and after construction. The summary should include pictures and maps that will enable the reader to understand the location, size, appearance and function of the project. The summary shall be available in: English, French, Innu-aimun (Labrador and Quebec dialects), Naskapi and Inuktitut.

4.2 INTRODUCTION

4.2.1 Identification of Proponent

This section shall introduce readers to the Proponent by providing pertinent corporate information, including the following:

- (a) Name of corporate body and mailing address
- (b) Chief Executive Officer
- (c) Principal contact person for purposes of environmental assessment
- (d) Ownership of rights and interests in the Project and associated natural resources
- (e) Corporate accountability for management of environmental and socio-economic effects. Operational arrangements and corporate and management structures, including the linkage of these factors between the Proponent, its parent companies and any other organizations with operational or ownership rights
- (f) Environmental and community relations policies
- (g) Key elements of the Proponent's environment, health and safety management system and how the system will be integrated into the Project

In addition the Proponent shall describe its history in Canada's hydroelectricity industry (generation and transmission), with specific

reference to the existing hydroelectric generation/transmission project at Churchill Falls, and the proposed Lower Churchill Hydroelectric Generation Project.

4.2.2 Overview of the Project

The intent of this overview is to provide the key components rather than a detailed description of the Project, which will follow under Section 4.3 (The Proposed Undertaking).

The Proponent shall briefly summarize the Project, by presenting the project components, associated activities, scheduling details, the timing of each phase of the Project and other key features. If the Project is part of a larger sequence of projects, the Proponent shall outline the larger context and present the relevant references, if available.

4.2.3 Purpose of the EIS

The purpose of the EIS shall be described.

4.2.4 Relationship to Legislation, Permitting, Regulatory Agencies & Policies

The EIS shall identify and discuss all relationships between the Project and relevant legislation, regulations and policies (municipal, provincial, and federal). Pertinent government policies, such as land and water resources development and use policies that may influence environmental management in the project area, and the Project's compliance with respect to these policies are to be addressed. The EIS shall describe how project siting, design and management have been influenced by compliance with these legislation and policies.

The Proponent shall provide a comprehensive list of anticipated permits and regulatory approvals required for the undertaking. The list shall include the following details:

- (a) activity requiring regulatory approval
- (b) name of permit or regulatory approval
- (c) name of legislation applicable in each case
- (d) regulatory agency responsible for each permit of approval

4.2.5 Land Claims Agreements and Interim Agreements

The EIS shall identify any publicly available agreements or arrangements, that may be in effect, entered into between the Proponent and/or the Government of Canada and/or the Government of Newfoundland and Labrador and/or Aboriginal group(s) in the context of land claims, and address how they may affect or be affected by the Project.

4.2.6 Other Registrations

The Proponent shall indicate whether any other registrations have previously been submitted in relation to this Project, or are to be submitted for environmental assessment in the future as a result of this Project.

4.3 THE PROPOSED UNDERTAKING

4.3.1 Need, Purpose and Rationale of the Project

The need for the Project is defined as the problem or opportunity the Project is intending to solve or satisfy. The “need for” will establish the fundamental rationale of the Project.

The “purpose of” the Project defines what the Proponent hopes to accomplish by carrying out the Project.

“Need for” and “Purpose of” the Project should be established from the perspective of the Proponent and provide a context for the consideration of alternatives to the Project.

This section of the EIS shall provide a comprehensive explanation of the need, purpose and rationale for the Project. The statement of the Project’s justification shall be presented in both energy and economic terms, shall provide a clear description of methodologies, assumptions and conclusions used in the analysis, and shall include an evaluation of the following:

1. Current and forecasted provincial electricity supply and demand
2. Current and forecasted provincial electricity conservation
3. Current and future provincial transmission line network
4. Current and future interprovincial transmission line network
5. Current exports by the Proponent to markets outside the Province
6. Export market opportunities, forecasts and expected evolution
7. Risks to the Project, market prices and schedule delays, interest rates and other risk factors relevant to the decision to proceed with the Project
8. Projected financial benefits, projected expenditures and effects on electricity rates of the Project (including their distribution) as measured by standard financial indicators
9. Relationship with the Newfoundland and Labrador’s 2007 Energy Plan

4.3.2 Alternatives

4.3.2.1 Alternatives to the Project

The alternatives to a project are defined as functionally different ways of addressing the need for the project. The EIS shall contain an analysis of alternatives to the Project, including the following:

- Management of electricity demand through utility-based energy efficiency and conservation initiatives;
- Alternative generation sources for the Project (e.g.: hydrocarbons, wind, other hydro projects such as run-of-river projects or combinations of generation sources);
- The addition by the Proponent of more capacity at existing generation facilities; and
- Status quo (no Project)

Among the alternatives to the Project to be considered, the Proponent shall pay close attention to how they would be integrated within Newfoundland and Labrador's 2007 Energy Plan.

The analysis of alternatives to the Project is to provide clearly described methods and criteria for comparing alternatives, and sufficient information for the reader to understand the reasons for selecting the preferred alternative and for rejecting others. This shall include a description of the conditions or circumstances that could affect or alter these choices, such as market conditions, regulatory changes and other transmission line developments, either prior to construction or during the life of the Project.

The EIS shall include a comparative analysis of the environmental effects and technical and economic feasibility of alternatives that led to the choice of the selected Project alternative. The comparative analysis shall indicate how the Proponent took into account the sustainable development objectives outlined previously in these Guidelines in determining criteria for selecting the preferred alternative. The Proponent shall include an evaluation of the thresholds for economic viability of the Project and considerations respecting the timing of phases and components of the Project. The Proponent shall also indicate under what circumstances a change in economic conditions may influence its selection of the preferred alternative.

4.3.2.2 Alternative Means of Carrying Out the Project

Alternative means of carrying out the Project, which are technically and economically feasible, and the environmental effects of any such alternative means shall be discussed.

The EIS shall describe design and siting alternatives for the transmission line and ancillary facilities (such as roads, convertor stations, electrodes and temporary infrastructure). The preferred alternatives shall be identified, with the selection based on clearly described methods and criteria. An explanation shall be included of how environmental factors affect the design and consideration of alternatives.

The Proponent shall provide the rationale for selecting Project components and shall discuss the state of the art of the various technologies being proposed. The Proponent shall indicate the known experience with, and the

effectiveness and reliability of these techniques, procedures and policies, particularly under arctic or subarctic conditions, in Canada and elsewhere, and their relation to best practice in Canada. This discussion shall also show how design, engineering and proposed procedures are compatible with the environment and the local communities and shall minimize adverse environmental and social effects.

The EIS shall analyze and compare the design alternatives for the Project in relation to their environmental and social costs and benefits, including those alternatives which cost more to build and/or operate but which result in reduced adverse environmental effects or more durable social and economic benefits.

Alternatives for the pace and scale of the operation shall be discussed, and the chosen alternative justified. The Proponent shall also indicate under what circumstances a change in economic conditions may influence its selection of preferred alternative means.

Alternative means of carrying out the Project shall include, but are not limited to, the following discussed below:

(a) Transmission Line Corridor Selection

- Following the Trans Labrador Highway Phase 2 and 3 along its entirety across southern Labrador to the Strait of Belle Isle.
- Following a portion of the Trans Labrador Highway, Phase 3, in combination with new corridor(s) across southern Labrador to the Strait of Belle Isle.
- Alternative corridors across the Long Range Mountains, including to the Cat Arm Hydroelectric Project and then following the existing Cat Arm Hydroelectric Project transmission corridor south.
- Alternative corridors across the Strait of Belle Isle including alternative landing sites and configurations.
- Alternative means of constructing/installing subsea cables (eg. tunneling entire route) including alternative means/locations for disposal of dredge/side-cast spoils.
- Alternative routes/locations for temporary and permanent access roads, laydown areas, work camps.
- Alternative sites for placement of electrodes (marine and land) and associated infrastructure.
- Alternative means of accessing the corridor including, but not limited to, helicopter, permanent access roads, temporary access roads and ice roads.

(b) Layout, Clearing and Siting

The Proponent shall evaluate layout and locations, including access roads or trails, quarries, borrow pits and camps, based on a variety of engineering

and environmental considerations. For access roads, the EIS shall consider alternative locations of stream crossings and types of crossing structures and the use of winter roads. For clearing, the Proponent shall consider alternative clearing methods, including mechanical and manual clearing. For quarries, access roads, and tower installations, the EIS shall outline the methods for prediction and prevention of acid rock drainage and metal leaching to be used in the site selection process.

Where such facilities are yet to be located, a site selection process and evaluation process shall be described to demonstrate how potential environmental effects will be avoided or mitigated.

(c) Construction Sequence

The EIS shall consider alternative construction sequences.

(d) Construction Labour Force Accommodation

The EIS shall describe alternative labour force accommodation strategies (e.g., number and location of camps, in-community housing). These evaluations are to consider economic, social and worker conditions (including health and hygiene) as well as any other relevant community, including Aboriginal community, considerations and environmental factors.

(e) Operations and Maintenance

- Alternative means of controlling vegetation within the right of way, including both mechanical and chemical means.
- Alternative locations of permanent access roads.

4.3.3 Project Description

The Proponent shall describe the scope of the Project for which the EIS is being conducted.

To facilitate the understanding of the Project by the public, the Proponent shall produce appropriate audiovisual materials describing the Project.

The proposed principal structures and related works to be described include but is not limited to the following:

- The towers, conductors, converter stations, electrodes and related infrastructure, cable crossings of the Strait of Belle Isle, cable landing sites and telecommunications services for Project operations (microwave radio system, fibre optic cable system).
- Related works and activities including all temporary facilities required for the construction and operation of the previously mentioned facilities, in particular:
 - Work camps

- Permanent and temporary access roads, trails and ice roads¹
- Bridges and watercourse crossings (including fording activities)
- Infrastructure for wastewater treatment & waste management
- Energy supply for camps and worksites
- Drinking water supply
- Borrow pits and quarries
- Management and disposal of excavated material including that associated with marine works
- Management and disposal of hazardous material and waste
- Construction worksites and storage areas

4.3.3.1 Spatial and Temporal Boundaries

A precise description of the spatial boundaries of the Project shall be presented accompanied by map(s) of appropriate scale showing the entire project area with the proposed principal structures and related works. Detailed digital GIS based files shall be available showing the locations of any camps, structures, routes, clearings, etc. The Proponent shall provide aerial images that illustrate representative habitats within each study area (see Section 4.4.2 – Study Areas).

The temporal boundaries of the Project shall cover all phases of the project: construction, operation, maintenance, foreseeable modifications and abandonment and decommissioning of works and the rehabilitation of the sites affected by the Project. If the Proponent does not believe the full temporal boundaries should be used for a phase of the Project, the report shall identify the boundaries used and provide a rationale for the boundaries selected.

4.3.4 Construction

The EIS shall show the construction and commissioning schedules for Project elements, based on the most current information available. In addition, to the extent possible, the approach, details, materials, methods, locations and security measures of all planned construction activities related to the physical features, including site preparation, permanent and temporary infrastructure and site rehabilitation shall be presented including estimates of magnitude or scale where applicable. This shall include the following:

- Transmission Line
 - Describe the construction methods for the transmission line, including towers, poles, conductors, telecommunications services for Project operations (microwave radio system,

¹ **Ice roads (ice crossings, ice bridges)** are frozen, human-made structures on the surface of bays, rivers, lakes, ponds or marine waters. They link dry land, frozen waterways, [portages](#) and [winter roads](#), and are usually remade each winter. Ice roads allow temporary transport to areas with no permanent road access.

- fibre optic cable system), crossings of water bodies, access roads and modifications to existing facilities
 - Describe the routing, type of line and interconnection points of the transmission lines
 - Describe the volume of wood (e.g., merchantable and non-merchantable) within the right-of-way and clearing, salvage and removal methods
 - Describe the communications plan, with respect to aircraft, that is required with the Department of National Defence (5 Wing Goose Bay) to prevent any incidents from occurring
 - Describe any possible restrictions to low level flying activities
 - Describe any possible restrictions to land use, including measures of notifying land users of ongoing construction activities
- Convertor stations
 - Describe the construction methods for the buildings, offices, maintenance areas, water and sewage works, electrical equipment and switchgear
- Electrodes
 - Describe the construction methods for the onshore junction houses, installation of the bundled individual cables and electrodes
- Cable crossings and landing sites at the Strait of Belle Isle
 - Describe the construction methods for the subsea, tidal and on land preparation, protection techniques for cables, tunnelling, drilling, trenching, backfilling and blasting activities, ocean disposal, cable pull-in and laying, onshore landing stations
- Right-of-Way Clearing
 - Describe the work required and schedule for right-of-way preparation including volume of merchantable and non-merchantable wood, location of cleared areas, harvesting strategy (e.g., roads, labour)
 - Describe methods for wood clearing/harvesting
 - Describe the work required to prepare the seabed for cable laying and associated infrastructure
 - Describe the work required to prepare the cable landing sites.
- Access Infrastructures
 - Describe the permanent and temporary access infrastructures (including road, air and water) to be constructed, as well as existing infrastructures to be utilized
 - Describe new access roads or trails and corridors (including locations, current and anticipated traffic, technical characteristics and general road construction standards such as maintenance, useful life, ditches, bridges and culverts including fording activities, and use of dust-control and de-icers) and any modifications and/or upgrades required to existing access infrastructures

- Describe the communications plan, with respect to aircraft, that is required with the Department of National Defence (5 Wing Goose Bay) to prevent any incidents from occurring
- Describe any possible restrictions to low level flying activities
- Describe any possible restrictions to land use, including measures of notifying land users of ongoing construction activities
- Borrow Pits, Quarries and Spoil Areas
 - Identify the source, quantity and end use of all rock and aggregate materials to be used
 - Identify the source, quantity and proposed disposal location of all excavated materials including marine disposal
 - If quarrying/excavating/using rock with the potential for acid generation, outline the methods for prediction and prevention of metal leaching and acid rock drainage (ML/ARD), and provide an assessment of potential for impacts of metal leaching and acid rock drainage (ML/ARD)
- Personnel Requirements
 - Present the estimated size of projected workforce by month or quarterly over the construction phase, indicating occupations by National Occupation Classification (NOC) Codes, skills, entry requirements and duration of work
 - Whether the positions are full-time equivalent or actual positions. If they are actual positions, the breakdown of full-time and part-time or full-year and part-year positions
 - The estimated skill composition demands for the workforce (i.e., do the positions require the experience of a journeyperson or apprentice)
 - Estimated percentage of the hired workforce from Newfoundland and Labrador
 - Estimated percentage of the hired workforce from Labrador
 - Describe the anticipated working schedule for Project construction activities
- Protected Areas
 - Where the final alignment of the proposed, or alternate corridors or construction infrastructure comes within one kilometre or less of an existing or proposed provincial protected area, the EIS shall describe the placement of towers and associated access and construction infrastructure (ie. roads, trails, bridges, quarries etc.).
- Temporary Structures and Infrastructure
 - Describe camp locations, drinking water supply source, method of managing wastewater and discharge areas, location and capacity and operating conditions of solid waste

disposal sites, power supply, and management of any other installations (including fuel storage depots) required for the camps to function properly and safely

- Provide the scope and location of any communication and telecommunications systems required by the Project (e.g., transmission towers, access roads, energy sources)
 - Identify and quantify the use, management and production of dangerous products and hazardous waste generated by the Project during the construction phase
 - Describe construction-water sources and methods of accessing and delivering water to construction sites for purposes such as mixing cement and drilling rock, Estimate the volumes of water required for construction purposes
 - Identify the location, capacity and access to material and fuel receiving, handling and storage areas
 - Describe the location, capacity and access to disposal and recycling sites for domestic and construction waste, including those developed during construction and existing sites to be used for the Project
 - Identify and describe potential landing areas for wood piles or wood storage sites
 - Provide an inventory of equipment and materials required for the Project, including hazardous materials
 - Describe the storage of hazardous materials
 - Describe any storage or use of explosives
 - Describe the communications plan, with respect to aircraft, that is required with the Department of National Defence (5 Wing Goose Bay) to prevent any incidents from occurring
 - Describe any possible restrictions to low level flying activities
- Mitigation and Compensation Works
 - Describe any physical works proposed as mitigation or compensation measures (for e.g.: sedimentation control)
 - Describe the communications plan, with respect to aircraft, that is required with the Department of National Defence (5 Wing Goose Bay) to prevent any incidents from occurring
 - Describe any communications plan to notify land users of ongoing construction activities to address potential incidents and conflicts
 - Describe any restrictions on worker's fishing, hunting or other land use activities to prevent adverse effects on local fish and wildlife populations
- Demobilization
 - Describe the approach and conceptual plans for demobilizing all structures used or created during construction that are of a temporary nature.

- Identify, within the limits of the Proponent's knowledge and control, how the operation, use, development, possible rebuilding and eventual dismantling and demobilization of certain installations shall be handled in consideration of other uses.
- Specifically note, to the extent possible, whether some installations, including all of the access infrastructures, may be used as they are, or may be converted or salvaged for other purposes by other proponents or communities, or if they must be dismantled and demobilized at the end of their useful life. The proposed means of rehabilitation of any areas to be abandoned shall be described.

4.3.5 Operation and Maintenance

All aspects of the operation and maintenance of the undertaking shall be detailed in this section of the EIS. This shall include:

- (a) Transmission Lines and Access Roads (or trails)
 - Maintenance (e.g., vegetation management, dust control, de-icing) of roads or trails and transmission facilities shall be described.
 - Electromagnetic fields shall be described temporally and spatially.
 - Maintenance of underwater cables
 - Maintenance of shore electrodes
 - Describe the communications plan, with respect to aircraft, that is required with the Department of National Defence (5 Wing Goose Bay) to prevent any incidents from occurring
 - Describe any possible restrictions to low level flying activities
 - Describe any communications plan to notify land users of ongoing operations and maintenance activities to address potential incidents and conflicts
- (b) Converter stations
 - Electromagnetic fields shall be described temporally and spatially.
- (c) Electrodes
 - Electromagnetic fields shall be described temporally and spatially.
- (d) Cable crossings and landing sites at Strait of Belle Isle
 - Cable crossings and landing sites at Strait of Belle Isle
 - Electromagnetic fields shall be described temporally and spatially.
 - Describe any temperature rise in water and sediments adjacent to the cable and any associated environmental effects.

(e) Personnel Requirements

- A profile of the estimated work force (including occupations by National Occupation Classification (NOC) Codes, skills, entry requirements and duration of work) shall be provided
- The estimated number of workers required by occupation by month
- Whether the positions are full-time equivalent or actual positions. If they are actual positions, the breakdown of full-time and part-time or full-year and part-year positions
- The skill composition demands for the workforce (i.e., do the positions require the experience of a journeyman or apprentice)
- Estimated percentage of the hired workforce from Newfoundland and Labrador
- Estimated percentage of the hired workforce from Labrador
- Working schedules for Project operation and maintenance activities shall be included.

(f) Fuel and Dangerous and Hazardous Products and Waste

- Identify and quantify the use, management and production of dangerous and hazardous products and waste generated by the Project during the operation and maintenance phase
- Describe material and fuel receiving, handling and storage areas and provision for management and disposal of waste and discarded equipment
- Describe procedures for management and remediation of spills of hazardous/dangerous material

(g) Operating Requirements

- The Proponent shall describe, in addition to permits and authorizations, all other requirements to operate the Project, including leases and insurance

4.3.6 Decommissioning

The EIS will present an approach for the decommissioning phase of the Project, which sets out a commitment to address:

- a) environmental planning and mitigation measures;
- b) socio-economic mitigation measures; and
- c) public health and safety procedures.

4.4 ENVIRONMENT**4.4.1 Identification of Issues and Selection of Valued Environmental Components (VECs)**

The Proponent shall identify the key issues related to the Project. To help focus the environmental assessment, the Proponent shall identify and justify, based on a clearly defined set of criteria, those components of the

biophysical and socioeconomic environment that are most valued and/or sensitive, and which have a meaningful potential to be affected by the Project (the “Valued Environmental Components” or VECs).

It is understood that the process for defining VECs is iterative and that the list of VECs can be modified during the environmental effects analysis phase. The VECs can be revised and adjusted in relation to the information acquired during the environmental assessment process.

For information purposes, the following are factors that could prove relevant in the choice of VECs:

- Aboriginal and public concerns related to the component;
- economic significance;
- protected status of the component;
- regulatory requirements;
- rarity or special status of the component;
- preservation of biodiversity;
- sensitivity of the component to disturbances or pollution;
- human health;
- importance of the component’s ecological role;
- cultural heritage² or social significance of the component.

In considering VECs, the Proponent shall recognize: that the value of a component not only relates to its role in the ecosystem, but also to the value placed on it by humans; that culture and way of life of those using the area affected by the Project may also be considered as VECs; and that functional relationships within the environment may also be considered as VECs.

4.4.2 Study Areas

For the purpose of describing the existing environment and assessing the Project’s anticipated effects on the biophysical and socio-economic environments, the Proponent shall determine study areas specific to each VEC. Each study area should be inclusive of the landscape necessary to predict the environmental effects of the Project on each VEC. For the purposes of assessing the Project’s effects on the socio-economic environment, the study areas shall take into consideration the landscape used to support contemporary and historic Aboriginal and non-Aboriginal land use.

² For the purpose of this environmental assessment, “cultural heritage” includes but is not limited to a human work or a place that

(a) either

- (i) gives evidence of human activity;
- (ii) has spiritual and/or cultural meaning; or
- (iii) gives evidence of human activity and has spiritual and/or cultural meaning;

and

(b) that has heritage value

The delineation of the study areas is crucial to scope the extent of the environmental assessment. The rationale used to delineate the boundaries of the study areas shall be provided.

The mapping and description of the study areas for each VEC may include the following information:

- main ecological constraints of the environment
- land use
- local communities
- habitat types
- survey locations

4.4.3 Previous Development

Transmission line construction has been ongoing in the Province. As such, understanding how the effects of past transmission line projects have been mitigated and/or managed is of interest where those environmental effects have the potential to overlap with those of the Project or would provide lessons that could be applied to the environmental assessment of the Project. The EIS should include a concise discussion (where such information is available and relevant to the Projects potential environmental effects) of similar past large scale transmission line projects and any other large scale linear projects within and beyond the boundaries of the Province, as appropriate, and the environmental effects that have occurred as a result, where overlapping environmental effect are anticipated, and the measures that have been taken to mitigate or manage these overlapping environmental effects. Discussion of overlapping environmental effects should include consideration of the degree to which those mitigation measures have been successful. Any long-term monitoring or follow-up programs of relevance to these overlapping environmental effects and the key results should also be described. This information will help interested parties to understand the potential environmental effects of the Project and how they may be addressed.

4.4.4 Description of the Existing Environment

The EIS shall identify the study area for each VEC and include a description of the existing biophysical and socio-economic environment and the resources within it that will be affected or that might reasonably be expected to be affected, directly or indirectly, by the Project.

The EIS shall describe relevant aspects of the existing environment in the study area for each VEC prior to development of the Project, which constitutes the reference state of the environment. This description of the environment must reflect available Aboriginal traditional and community knowledge, as well as social, cultural and economic activities and values related to the described components. The description, depending on the

study area, would also include physical/chemical characterization of seabed sediments that may be disturbed and of any proposed marine disposal site.

Where appropriate and possible to do so, the Proponent shall present a time series of data and sufficient information to establish the averages, trends and extremes of the data that are necessary for the evaluation of potential environmental and cumulative effects of the Project. For each VEC, the Proponent should consider and justify how far back in time and how far into the future the environmental assessment should be conducted. The Proponent will identify any deficiencies in information, and how these deficiencies will be addressed.

Using original and existing qualitative and quantitative surveys and studies, the EIS shall describe the components of the biophysical and human environments likely to be affected by the Project. If the information available from government or other agencies is insufficient or no longer representative, the Proponent shall complete the description of the environment with current surveys and studies.

Components of the environment must be described and this shall include the necessary data and the required information to understand, interpret and address the confidence levels of these data (methods, survey dates and times, weather conditions, location of sampling stations, etc. as appropriate) and shall employ appropriate methods to identify, understand, analyze and assess the environmental effects of the Project. If the required information is neither available nor able to be generated, the Proponent shall include an explanation of efforts made to obtain the information and, where possible, reasons why it cannot or will not be provided.

In addition, the EIS shall describe environmental interrelationships and sensitivity to disturbance. If the study results or data have been extrapolated or otherwise manipulated to depict environmental conditions in the study area modeling methods and equations shall be described with calculations of margins of error and/or confidence limits.

A description of the existing environment shall be developed for each alternative drawing specific reference to the VECs. References are attached at the end of these Guidelines to provide direction to the Proponent.

Detailed discussions shall be developed and VECs described for the following;

4.4.4.1 Atmospheric Environment

The Proponent shall describe the relevant components of the atmospheric environment within the study area of the VECs, including the following:

- Climate and meteorology
- Indication of recent climate change observations
- Any emissions of greenhouse gases
- Existing ambient noise level

4.4.4.2 Aquatic Environment (Freshwater and Marine)

The Proponent shall describe the relevant components of the aquatic environment within the study area of the VECs, including the following:

- Biological diversity, composition, abundance, distribution, population dynamics, sensitivity to disturbance and habitat utilization (including identification of sensitive/critical habitats) of aquatic species, including fish, semi-aquatic species, seabirds and marine mammals.
- Species of special interest or conservation concern (including their habitat), with an emphasis on rare, vulnerable or threatened species (e.g.: species listed in the *Endangered Species Act*, *Species at Risk Act* as well as COSEWIC and Species Status Advisory Committee (SSAC) assessed species.)
- Areas of special interest (Strait of Belle Isle is considered an ecologically and biologically significant area (EBSA) characterized by its significance for marine mammals.)
- Description of physical oceanography in the Strait of Belle Isle and characterization of the ice regime, including iceberg movement and distribution, groundings, and scour depth.
- Details re fish habitat classification and quantification
- Fish mortality from construction and operation
- Human-environment interactions

4.4.4.3 Terrestrial Environment

The Proponent shall describe the relevant components of the terrestrial environment within the study area of the VECs, including the following:

- Relative abundance of species/systems to be included to assess potential impacts (looking both inside and outside of impacted area)
- Bedrock and surficial geology, terrain and soil conditions
- Any permafrost conditions, including areas of discontinuous permafrost.
- Species of special interest or conservation concern (including their habitat) , with an emphasis on rare, vulnerable or threatened species (e.g.: species listed in the *Endangered Species Act*, *Species at Risk Act* as well as COSEWIC listed species and SSAC assessed species.)
- Composition, abundance, distribution, population dynamics and habitat utilization of terrestrial fauna, including mammals, avifauna (e.g., raptors and migratory birds including landbirds, rare fauna, waterfowl and shorebirds). Fauna (including migratory species), fauna species at risk, and potential habitat for fauna species at risk.
- Composition, distribution and abundance of terrestrial flora, including forest inventories and ecological land classifications. Flora (include lichens), including typical species, rare species, species at risk, non native species and potential habitat for flora species at risk.

- Existing patterns of habitat and ecotype alteration, disruption and destruction ie) document existing land uses with the objective of determining existing and projected footprint.
- Composition, distribution and abundance of medicinal herbs and plants harvested by affected Aboriginal communities. This should be based in whole or in part on information on importance and use of these herbs and plants as provided to Nalcor by Aboriginal communities.
- Composition, distribution and abundance of wetlands as classified using the Canada Wetland Classification System. Further characterization, in terms of a map with wetlands/wetland complexes identified and a table which gives the size and the dominant class of the identified wetlands. A functional analysis (e.g., habitat, water flow regulation, groundwater recharge) shall be conducted only for those wetlands that are expected to be directly affected.
- Migratory patterns/migratory wildlife river crossings

For the Terrestrial Environment some key indicator species/species assemblages were selected to focus the environmental assessment. The species selected are reflective of different phyla, orders, families or guilds of species that represent key components of the Terrestrial Environment. These species were selected as being representative of species groups, importance in the food web (e.g., top predator), and their importance from socio-cultural and economic perspectives. The following is the list of these key indicators:

- (a) Caribou
- (b) Harlequin duck
- (c) Waterfowl (including early and late breeding, molting and staging)
- (d) Shorebirds
- (e) Upland game birds (including Willow and Rock Ptarmigan)
- (f) Raptors
- (g) Landbirds (including passerine and song birds)
- (h) Black Bear
- (i) Moose
- (j) Marten
- (k) Lynx/Coyote/Wolves
- (l) Flora species (Plants and Lichens)

4.4.4.4 Land and Resource Use

The Proponent shall describe relevant land and resource use within the study area of the VECs, including the following:

- Present and potential timber resource logging/harvesting and utilization (commercial and domestic)

- Include existing roads, transmission lines, other linear features, other developments, and natural disturbances such as fire.
- Current use of land and resources (including freshwater and marine aquatic resources) by Aboriginal persons for traditional purposes, including location of camps, harvested species and transportation routes. Mapping in relation to Aboriginal land use shall include Aboriginal toponyms, where relevant and available to the Proponent, in addition to common and accepted local place names.
- Current use of land and resources (including freshwater and marine aquatic resources) by other users (including agricultural, petroleum and mineral exploration, quarries, structural development such as cabins, outfitting camps, trapper's camps, etc)
- Other rural land and resource use including existing and potential recreational and commercial fishing (freshwater and marine) and the fishing gear used, hunting, gathering of country food and collection of plant propagules
- Current use of land and water resources for supply of domestic potable water for individuals and communities.
- Current navigational use (e.g., vessel/boat traffic) and winter travel in areas of electrodes, sub sea cables, temporary/permanent water crossings, and any other works than are placed in, on, over, through, or across any navigable water.
- Location and description of unique sites or special features, including any candidate sites for ecological or cultural heritage preservation and conservation, Environmentally Sensitive Areas, reserves or protected areas, conservation agreement lands and habitat enhancement projects.
- Landscapes, landscape integrity, aesthetics, wilderness values.

4.4.4.5 Cultural Heritage Resources

The Proponent shall describe relevant cultural heritage resources in the study areas of the VECs, including:

- Burial, cultural, spiritual and heritage sites
- Historic and archaeological resources, including those underwater
- Palaeontological resources
- Architectural resources

4.4.4.6 Communities

The Proponent shall describe relevant community elements in the study areas of the VECs, including:

- Demographics
- Community services and infrastructure
 - Health services and social programs (e.g., drug addiction, delinquency)
- Human health

- Drinking water sources and quality
- Community health
- Family life
- Safety
- Culture
- Education and Training
- Housing and accommodation
- Property value and land use

Mapping in relation to Aboriginal communities shall include Aboriginal toponyms, where relevant and available to the Proponent, in addition to common and accepted local place names

4.4.4.7 Economy, Employment and Business

The Proponent shall describe relevant economy, employment and business elements in the study areas of the VEC, including

- Economy of the Province
 - Taxes and royalties
 - Effects on gross domestic product
- Employment in the Province
- Skilled and unskilled labour supply in the Province
- Expenditures in the Province
- Employment equity and diversity including under-represented groups (e.g., women, persons with disabilities, aboriginal groups)
- Business capacity
 - Goods and services
- Agriculture
- Outfitting
- Tourism
- Trapping
- Forest Resources Harvesting
- Mining and Mineral Exploration

4.4.5 Component Studies

Component Studies shall be prepared for at least the following VECs, including:

- Caribou (and predators)
- Furbearers
- Avifauna
- Species at risk (flora, including lichens and fauna)
- Marine and Freshwater fish and fish habitat (including plankton, benthos, and marine mammals and any existing or potential aboriginal, commercial and recreational fisheries)
- Marine and fresh water (quality and quantity)

- Historic resources
- Timber resources
- Socio-economics (including tourism, outfitting, outdoor recreation)
- Viewscapes

Where new information becomes available as a result of baseline studies, additional component studies may be required.

Component studies generally have the following format.

(a) Rationale/Objectives

In general terms, the rationale for a component study is based on the need to obtain additional data to determine the potential for significant effects on a VEC due to the proposed undertaking, and to provide the necessary baseline information for monitoring programs.

(b) Study Area

The boundaries of the study area shall be defined depending on the characteristics of the VEC being investigated.

(c) Methodology

Methodology shall be proposed by the Proponent, in consultation with resource agencies, as appropriate. The methodologies for each component study shall be summarized in the EIS.

(d) Study Outputs

Study outputs shall be proposed by the Proponent. Information and data generated shall be sufficient to adequately predict the effects on the VEC and determine monitoring and follow-up requirements.

4.4.6 Data Gaps

Any information gaps from a lack of previous research or practice shall be described indicating baseline/information which is not available or existing data which cannot accurately represent environmental conditions in the study area over four seasons. If background data have been extrapolated or otherwise manipulated to depict environmental conditions in the study area, modeling methods and equations shall be described and shall include calculations of margins of error and/or confidence limits. If data gaps remain, the Proponent shall describe its efforts to resolve the data gaps, including any direct consultation with groups, individuals and others.

4.4.7 Future Environment Without the Project

The EIS shall describe, to the extent possible, the predicted future condition of the environment within the expected life span of the Project, if the Project were not to proceed. The predicted future condition of the environment shall help to distinguish project related effects from environmental change due to natural processes and shall include a discussion of climate change.

The socio-economic environment to be described will undergo change regardless of the Project. The analysis shall consider the likely trends in the area in the absence of the Project given available information about other planned major projects or social, economic, or institutional changes in the zone of influence within the time frame of the Project.

4.5 ENVIRONMENTAL EFFECTS

4.5.1 General

The EIS shall contain a comprehensive analysis of the predicted environmental effects on the VECs of each project alternative. If the effects are attributable to a particular phase of the Project (construction, operation and/or maintenance) then they should be designated as such.

Predicted environmental effects (positive and negative, direct and indirect, short and long-term) shall be defined quantitatively and qualitatively for each project alternative and for each VEC. Environmental effects predictions shall be explicitly stated and the theory or rationale upon which they are based shall be presented in terms of the following parameters, as appropriate.

- (a) nature
- (b) magnitude (qualitative and quantitative)
- (c) geographic (spatial) extent
- (d) timing, duration and frequency
- (e) degree to which effects are reversible or mitigable
- (f) ecological context
 - Document the use of existing linear corridors by Newfoundland and Labrador caribou and their predators to provide baseline data on the effects of linear corridors on the landscape.
 - Identify the potential effects on remaining pristine areas and important habitat on the Northern Peninsula: the Highlands of St John and the Soufflets-Main River areas.
 - Conduct botanical and wildlife surveys throughout the footprint of the proposed transmission line, as well as literature research detailing the effects of linear corridors on wildlife, and increased access and use by humans/predators.
- (g) Cultural heritage and social context
- (h) level and degree of certainty of knowledge

- (i) the capacity of renewable resources that are likely to be significantly affected by the Project, to meet the needs of present and future generations
- (j) the extent to which biological diversity is affected by the Project
- (k) environmental protection goals and objectives as set out in applicable legislation, regulations, policies, plans and programs

The Proponent shall prepare a table describing the proposed Project's anticipated effects, which shall enable the reader to review and consider those effects.

Among the effects of the Project on the biophysical environment to be assessed, the EIS shall consider the effects on fish and fish habitat and marine mammals (including migration patterns and fish mortality), any greenhouse gas emissions and navigation and navigability. Climate change implications should also be considered.

With respect to the fish and fish habitat VEC, the proponent shall conduct a comprehensive analysis of the impacts to fish and fish habitat, including marine mammals, associated with but not limited to:

- installation and operation of the Strait of Belle Isle cable crossing, including any blasting activities;
- acoustic outputs into the water, particularly for the Strait of Belle Isle, and its impact on marine mammals and their migration;
- installation and operation of shore electrodes, including but not limited to electromagnetic and thermal fields, generated and induced electric fields and electrolysis products;
- long term effects of electrode functioning;
- electromagnetic disturbances and their effects on fish and benthic invertebrates;
- fate and effects of chlorine generated by electrodes;
- interference or disruptions to fisheries in the marine and freshwater environments, including the creation of access to remote lakes and rivers;
- construction, operation and decommissioning of access roads and multiple watercourse crossings; and
- Effects on fisheries and use of fishing gear in the Strait of Belle Isle as a result of the submarine cable

With respect to greenhouse gases, the Proponent shall describe and analyze any greenhouse gas emissions from the Project.

With respect to effects of the Project on navigation and navigable waters, the Proponent shall describe effects on the navigability and the navigation patterns of all waters existing, altered or created by all phases (construction, installation, operation) of the Project. Impacts on traditional (e.g., hunting, fishing) and current recreational and commercial waterway use should be identified and assessed.

The assessment of the beneficial and adverse effects of the Project on the socio-economic environment shall consider how the Project may affect various segments of the local populations (e.g., youth, elders, men, women, Aboriginal groups, harvesters, existing workforce including professionals). The following should be taken into account when assessing effects of the Project:

- (a) demographics
- (b) human health
- (c) social and cultural patterns
- (d) services and infrastructure (including road transportation of workers and materials)
- (e) cultural heritage sites
- (f) land and resource use
- (g) local, regional and provincial economy
- (h) employment, education and training
- (i) governments
- (j) Aboriginal issues
- (k) experience gained from previous large developments

In considering the local social and economic effects of the Project, the Proponent shall have due regard for the attitudes, beliefs and perceptions of local residents, and how these are grounded in their culture, social organizations and historical experience.

4.5.2 Accidents and Malfunctions

The Proponent will identify and describe the potential accidents and malfunctions related to the Project, including an explanation of how those events were identified, potential consequences (including the potential environmental effects), the worst case scenarios and the effects of these scenarios. The Proponent will explain the potential quantity, mechanism, rate, form and characteristics of the contaminants and other materials likely to be released into the environment during the malfunction and accident events.

Potential accidents and malfunctions may include those associated with the following occurrences:

- fires
- waste management and disposal;
- use, handling or spills of chemicals and hazardous materials on land or in the marine and freshwater environments, including vessel operations; and
- any other project components or systems that have the potential, through accident or malfunction, to adversely affect the natural environment.

The Proponent shall pay special attention to the sensitive elements of the environment (e.g., communities, homes, natural sites of interest, areas of major use) that may be affected in the event of an accident or a major malfunction.

The Proponent shall assess the likelihood of occurrence of the accidents and malfunctions.

Detailed plans, measures and systems to reduce the potential occurrence of an accident or malfunction shall be provided by the Proponent. They shall indicate how they will reduce the effects or consequences of an accident or malfunction, should it occur.

4.5.3 Cumulative Effects

The Proponent shall identify and assess the Project's cumulative environmental effects. Cumulative effects are defined as changes to the environment due to the Project where those overlap, combine or interact with the environmental effects of other existing, past or reasonably foreseeable projects or activities.

In the cumulative effects assessment, the Proponent shall consider guidance provided by the Canadian Environmental Assessment Agency in its Cumulative Effects Assessment Practitioners Guide (1999) and other literature and experience with environmental assessment in Canada or elsewhere that it finds helpful in framing the cumulative environmental effects analysis.

The Proponent shall:

- identify and justify the VECs that will constitute the focus of the cumulative effects assessment. The Proponent's assessment should examine the likelihood, nature and extent of the predicted cumulative effects of each Project alternative for each VEC. It may be appropriate, during the course of the environmental assessment, to refine the definition of VECs selected for cumulative effects assessment.
- present a justification for the spatial and temporal boundaries of the cumulative effects assessment. The boundaries for the cumulative effects assessments will again depend on the effects being considered (e.g., will generally be different for different effects). These cumulative effects boundaries will also generally be different from (larger than) the boundaries for the corresponding Project effects;
- describe and justify the choice of projects and selected activities for the cumulative effects assessment. These shall include past activities and projects, those being carried out and future projects or activities likely to be carried out. This shall include a discussion of cumulative environmental effects associated with any future increase in capacity of the Transmission Link to enable transportation of additional power from the Lower Churchill along all or part of the proposed transmission line;
- describe the mitigation measures that are technically and economically feasible;
- determine the significance of the residual cumulative effects; and
- assess the effectiveness of the measures applied to mitigate the cumulative effects. In cases where measures exist that are beyond the scope of the Proponent's responsibility that could be effectively applied to mitigate these effects, the Proponent shall identify these effects and the parties that have the authority to act. In such cases, the Proponent shall summarize the discussions that took place with the other parties in order to implement the necessary measures over the long term.

4.5.4 Renewable Resources

The Proponent shall determine, based on the results of their assessment, whether the Project is likely to cause significant environmental effects on renewable

resources and therefore compromise their capacity to meet present and future needs.

Renewable resources are defined as resources that can be renewed on a regular basis, either naturally or by human action. While the emphasis is placed on living renewable resources such as fish, wildlife and forest, the analysis of the effects on renewable resources should also consider non-living renewable resources such as water.

The Proponent shall briefly describe the renewable resources that may be affected by the Project. The Proponent shall clearly establish, taking into account the result of their impact assessment, whether these renewable resources are likely to be significantly affected following the implementation of proposed mitigation measures (residual significant environmental effects). Should this be the case, the following points shall be addressed:

- a brief description of the Project's environmental effects on the renewable resource;
- an indication as to the way in which the capacity of this resource was measured or evaluated;
- an indication of the temporal and geographic boundaries used to assess the capacity of the affected resource;
- a determination of the capacity of the resource to meet current needs;
- a determination of the capacity of the resource to meet future needs;
- a description of any other appropriate mitigation measures;
- a determination of the significance of the residual effects on the renewable resource and its capacity to meet the need of current and future generations;
- an identification of the risks and uncertainties that remain and the description of the next steps, if any, that will be required to address this effect.

4.5.5 Effects of the Environment on the Project

The environmental effects that may occur as a result of the environment acting on the Project shall be assessed.

Environmental changes and hazards that may occur and may affect the Project shall be described (e.g., wind, currents, waves, storm surges, severe precipitation events, flooding, ice, sea ice, icebergs, earthquakes). The EIS shall take into account the potential influence of climate change scenarios (e.g., sea level rise, iceberg frequency, increased severity and frequency of storms and flooding). The influence that these environmental changes and hazards may have on the Project shall be predicted and described.

4.6 ENVIRONMENTAL PROTECTION

4.6.1 Mitigation

The EIS shall identify and discuss the proposed mitigation measures that are technically and economically feasible and that would mitigate the significant adverse effects of the Project and enhance beneficial effects, including the

interaction of these measures with existing environmental management plans. Under the CEAA, mitigation is defined as the elimination, reduction or control of the adverse environmental effects of the Project, and includes restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means. The rationale for and effectiveness of the proposed mitigation and enhancement measures should be discussed and evaluated. Available data, survey and study results and detailed monitoring and mitigation measures that demonstrate a particular emphasis on avoidance of environmental effects is to be included in the EIS. The Proponent, where possible, should refer to similar situations where the proposed mitigation has proven to be successful. Mitigation failure should be discussed with respect to risk and severity of consequence.

The Proponent shall identify who is responsible for the implementation of these measures and the system of accountability, including the obligations of all its contractors and subcontractors.

Mitigation measures shall be described for the construction, operation, maintenance and decommissioning phases and shall include:

- (a) Procedures that would be used to avoid environmentally sensitive areas or periods of the year
- (b) Contingency plans and procedures to respond to accidents, malfunctions & emergencies
- (c) Description of fish habitat compensation measures to offset adverse effects on fish and fish habitat
- (d) Mitigation measures to reduce, eliminate or control impacts of project components and activities, identified in sections 4.3.4 Construction, 4.3.5 Operation and Maintenance and 4.3.6 Decommissioning, on fish and fish habitat (including marine mammals)
- (e) Measures to ensure continued unrestricted and safe access and passage on land and sea for harvesting and travel by Aboriginal and non-Aboriginal local residents, and what alternatives shall be provided in the event of disruption
- (f) Measures to reduce or eliminate impacts on safe navigation during the construction, installation, and operation of the sub sea cable crossing, electrode sites, temporary and permanent stream crossings, and all aerial transmission lines over navigable waters
- (g) Mitigation measures which would be taken to reduce or offset adverse effects on communities affected by the Project
- (h) Mitigation measures which would be taken to reduce or offset adverse effects on local businesses most directly affected by the Project
- (i) Measures to enhance any beneficial environmental effects, such as economic benefits to businesses affected by the Project
- (j) Measures to maximize labour market opportunities, including Aboriginal labour, and address labour challenges with an emphasis on strategies to enhance recruitment and retention and increase employment and participation. To this end, the Proponent must minimally describe a human resources plan that includes a description of objectives and strategies to address labour force availability, skilled trades recruitment, diversity in

recruitment, training and employment equity. This plan should also minimally identify employment objectives and targets for women and other labour force groups if applicable.

- (k) Contingency plans and procedures to follow in the event cultural heritage resources are accidentally discovered during all phases of the project.
- (l) Development and methods for implementing wildlife (fauna and flora) mitigation protocols and associated monitoring programs. Issues surrounding increased access and potential effects on wildlife and species at risk, must be considered

Other mitigation measures that were considered, if any, shall be identified, and the rationale for rejecting these measures shall be explained. Trade-offs between costs and predicted effectiveness of the mitigation measures shall be justified.

The Proponent shall discuss the application of the Precautionary Principle in the identification of mitigation measures. The Precautionary Principle is defined in Section 2.5. The best available technology and best management practices shall be considered. Consideration shall be given for avoidance of environmental effects through implementation of scheduling and siting constraints and pollution prevention opportunities.

4.6.1.1 Compensation

The Proponent shall describe, in general terms, compensation programs and arrangements as follows:

- (a) Any compensation programs for damage caused by the Proponent's activities to the environment, to property, business operations, or to the land and resources of others. The Proponent shall describe any existing or proposed compensation programs for losses relating to property, use, access, harvests, added harvesting effort and costs that may be incurred by users of the land and its resource (e.g., tourism operators, outfitters, trappers, subsistence hunters). A comparison with compensation programs for other projects and other resource development activities shall be provided.
- (b) Any compensation arrangements for local, public or private providers whose burdens and costs are increased or who incur losses as a result of the Project.

4.6.2 Emergency Response / Contingency Plans

The Proponent shall describe its environmental management plans which shall include consideration of human-wildlife interaction (e.g., bear management plans) and Safety, Health and Environmental Emergency Response Plans (SHERP) to provide an overall perspective on how potentially adverse environmental effects shall be managed over time. The Environmental Management System (EMS) shall include various plans (e.g., emergency response plans, contingency plans, environmental protection plans, waste management plans (shall consider

issues with bears near camps, use of bear proof waste material containers, etc.), hazardous spill plans, monitoring plans) and developed in a manner consistent with the International Organization for Standardization (ISO) 14001 program. It shall show how the Project is consistent with sustainable development efforts in the region. Appropriate government agencies, Aboriginal groups and local communities shall be involved in the development of the plans.

4.6.3 Rehabilitation

A plan of proposed rehabilitation measures is required to address areas disturbed by temporary activities such as access roads, off-loading facilities, construction camp(s), land clearing etc. The plan shall discuss the rationale, objectives and procedures for proposed rehabilitation measures. A schedule for carrying out the work (e.g., seasonal requirements) shall be included in the plan. Appropriate materials (e.g., plant species, soils) shall be indicated.

4.6.4 Monitoring and Follow-up Programs

The EIS shall describe the environmental and socio-economic monitoring and follow-up programs to be incorporated into construction, operation and modification activities.

The Proponent shall consider guidance provided by the Canadian Environmental Assessment Agency in its follow-up programs under the *Canadian Environmental Assessment Act*.

Monitoring programs will ensure that the Project is implemented as proposed, that the mitigation or compensation measures proposed to avoid or reduce to acceptable levels the Project's environmental effects are effectively implemented, and that the conditions set at the time of the Project's authorization and the requirements pertaining to the relevant laws and regulations are met. The monitoring program will also make it possible to check the proper operation of works, equipment and facilities. If necessary, the program will help reorient the work and possibly make improvements at the time of construction and implementation of the various elements of the Project.

The purpose of the follow-up program is to verify the accuracy of the predictions made in the assessment of the effects as well as the effectiveness of the mitigation measures. The duration of the follow-up program shall be as long as is needed to evaluate the effectiveness of the mitigation measures.

The proponent shall report on hiring and employment objectives and targets on a quarterly basis.

If either of these programs identify unforeseen adverse environmental effects, the Proponent shall commit to adjusting existing mitigation measures, or, if necessary, develop new mitigation or compensation

measures. The Proponent shall describe how the results of monitoring and follow-up programs will be used to refine or modify the design and implementation of management plans, mitigation measures and Project operations. This section shall also discuss the ways in which holders of Aboriginal traditional and community knowledge, including elders, women and youth, shall be involved in any monitoring and follow-up programs. The Proponent shall distinguish as appropriate between monitoring (compliance) and effects follow-up programs.

The proposed approach for monitoring shall be described and shall include:

- (a) The objectives of the monitoring program and a schedule for collection of the monitoring data required to meet these objectives;
- (b) The sampling design, methodology, selection of the subjects and indicators to be monitored, and their selection criteria;
- (c) The frequency, duration and geographic extent of monitoring, and justification for the extent;
- (d) The application of the principles of Adaptive Environmental Management
- (e) Reporting and response mechanisms, including criteria for initiating a response and procedures;
- (f) The approaches and methods for monitoring the cumulative effects of the Project with existing and future developments in the Project area;
- (g) Integration of monitoring results with other aspects of the Project including adjustments to operating procedures and refinement of mitigation measures;
- (h) Experience gained from previous and existing monitoring programs;
- (i) The advisory roles of independent experts, government agencies, communities, holders of Aboriginal traditional and community knowledge and renewable resource users;
- (j) Procedures to assess the effectiveness of monitoring and follow-up programs, mitigation measures and recovery programs for areas disturbed by the Project; and
- (k) A communications plan to describe the results of monitoring to interested parties.

The Proponent shall explain how the public and Aboriginal groups shall continue to be involved, including participation in the design and implementation of environmental management and monitoring and follow-up programs.

The Proponent shall describe plans to maintain communications and working relationships with the affected communities, Aboriginal organizations, municipalities and government agencies throughout the life of the Project. The intent of these plans is to involve those groups in monitoring and follow-up programs, and in identifying and working toward the reduction of adverse physical, biological or socio-economic effects, and the enhancement of beneficial effects.

To design complete and comprehensive program proposals, the Proponent shall prepare and submit these documents subsequent to the completion of the environmental assessment, but before the initiation of the Project itself.

4.7 RESIDUAL EFFECTS AND DETERMINATION OF SIGNIFICANCE

Residual effects are those adverse environmental effects which cannot or will not be avoided or mitigated through the application of environmental control technologies, best management practices or other acceptable means.

The EIS shall list and contain a detailed discussion and evaluation of residual effects, including residual cumulative effects, which shall be defined in terms of the parameters outlined in sections 4.5.1 and 4.5.3.

The EIS shall contain a concise statement and rationale for the overall conclusion relating to the significance of the residual adverse environmental effects. The EIS will, for ease of review, include a summary table of the environmental effects, proposed mitigation and residual adverse effects.

4.8 CONSULTATION WITH ABORIGINAL GROUPS AND COMMUNITIES

The EIS shall demonstrate the Proponent's understanding of the interests, values, concerns, contemporary and historic activities, Aboriginal traditional knowledge and important issues facing Aboriginal groups, and indicate how these will be considered in planning and carrying out the Project. The Aboriginal groups and communities to be considered include, in Newfoundland and Labrador, the Innu Nation, the NunatuKavut Community Council and the Nunatsiavut Government and, in Quebec, the Innu communities of Uashat Mak Mani-Utenam, Ekuanitshit, Nutaskuan, Unamen Shipu, Pakuashipi, Matimekush-Lac John, and the Naskapi Nation of Kawawachikamach.

The Proponent should offer consultation/information meetings with each of the above-mentioned Aboriginal groups.

The Proponent should communicate with the above mentioned Aboriginal groups to offer oral presentations in Aboriginal communities. The Proponent shall also offer to provide simultaneous translation of the oral presentations in the Aboriginal language spoken in the particular Aboriginal community. Presentations should describe the project, its predicted impacts and their significance, and proposed mitigation measures.

To assist in ensuring that the EIS provides the necessary information to address issues of potential concern to these groups, the Proponent shall consult with each group for the purpose of:

1. familiarizing the group with the Project and its potential environmental effects;
2. identifying any issues of concern regarding potential environmental effects of the Project; and
3. identifying what actions the Proponent is proposing to take to address each issue identified, as appropriate.

The Proponent shall explain in the EIS the process undertaken to understand the interests, values, concerns, contemporary and historic activities, Aboriginal traditional knowledge

and important issues facing Aboriginal groups including any meetings, presentations and consultations held with the above-mentioned Aboriginal groups and communities including any oral or written translation and interpretation in Aboriginal languages.

If the Proponent is not able or should not address any particular issue(s), the EIS should include supporting reasons.

The results of those consultations are to be presented in a separate chapter of the EIS with an individual section for each of the affected Aboriginal groups. The Proponent must refer readers to the relevant sections of the EIS, as appropriate.

4.9 PUBLIC PARTICIPATION

Public consultation meetings are required of the Proponent to present the proposal and to record interests and concerns, including those received in response to the Registration. These concerns shall be addressed in a separate chapter of the EIS.

The Proponent shall describe the activities and information sessions that they will hold or that they have already held within the context of the Project at the local, regional and national levels, where applicable. The Proponent shall indicate the methods used and their relevance, the locations where information sessions were held, the persons and organizations attending, the concerns voiced and the extent to which this information was incorporated in the design of the Project as well as in the EIS. Moreover, the Proponent shall describe how issues were recorded and addressed through the use of tables of concordance. Any outstanding issues shall be clearly identified.

Protocol for this meeting shall comply with the legislation and with the Newfoundland and Labrador Department of Environment and Conservation's Environmental Assessment Division's policy on advertisement requirements for public meetings/information sessions included in **Appendix B**.

As a minimum, public meetings in Labrador must be held in the communities, of Happy Valley-Goose Bay, Northwest River, Sheshatshiu and Forteau. On the Island portion of the Province meetings must be held in, or at locations easily accessible to, the communities of Flower's Cove, Portland Creek, Deer Lake, Grand Falls, Clarenville, Holyrood and St. John's.

4.10 ENVIRONMENTAL PROTECTION PLAN

The Proponent shall prepare an Environmental Protection Plan (EPP) for each main construction site and have them approved by the regulatory authorities before starting construction. They shall be stand-alone documents that shall target the site foreperson, the Proponent's occupational health, safety and environmental compliance staff, as well as government environmental surveillance staff. The EPPs shall address construction, operation and modification phases of the Project. A proposed Table of Contents and an annotated outline for the EPPs is to be presented in the EIS which shall address the major construction and operational activities, permit requirements, mitigation measures and contingency planning as follows:

- Proponent's environmental policies

- Objectives and voluntary commitments
- Relevant human resource management plans
- Environmental compliance monitoring
- Environmental protection measures
- Mitigation measures
- Permit application and approval planning
- Contingency planning for accidental and unplanned events
- Statutory requirements
- Revision procedures and contact lists

4.11 COMMITMENTS MADE IN EIS

Provide a list of all commitments made in the Environmental Impact Statement regarding environmental mitigation, monitoring and follow-up. Included in the list is a reference to the section of the EIS where the commitment(s) are made.

4.12 REFERENCES CITED

All references used during the preparation of the EIS shall be cited in the text and listed in this section.

4.13 PERSONNEL

The names and qualifications of all key professionals responsible for preparing the EIS and supporting documentation shall be included.

4.14 COPIES OF REPORTS

The Proponent shall prepare a complete and detailed bibliography of all studies used to prepare the EIS. Supporting documentation shall be referenced in the EIS and submitted in separate volumes or attached as an Appendix to the EIS.

BIBLIOGRAPHY

- Beanlands, G.E. and P.N. Duinker, 1983. An Ecological Framework For Environmental Impact Assessment in Canada. Institute for Resource and Environmental Studies, Dalhousie University and Federal Environmental Assessment Review Office. ISBN 0-7703-0460-5.
- Department of Fisheries and Oceans. 2002. Practitioners Guide to Habitat Compensation.
- Department of Fisheries and Oceans. 1998a. Habitat Conservation and Protection Guidelines. Internet: http://www.dfo-mpo.gc.ca/canwaters-eauxcan/infocentre/guidelines-conseils/guides/fhmguide/index_e.asp
- Department of Fisheries and Oceans. 1998b. Decision Framework for the Determination and Authorization of Harmful Alteration, Disruption or Destruction of Fish Habitat. 23 pages. Internet: http://www.dfo-mpo.gc.ca/canwaters-eauxcan/infocentre/guidelines-conseils/guides/hadd/index_e.asp
- Department of Fisheries and Oceans. 1986. Policy for the Management of Fish Habitat. Internet: http://www.dfo-mpo.gc.ca/canwaters-eauxcan/infocentre/legislation-lois/policies/fhm-policy/index_e.asp
- Environment Canada. 2004. Environmental Assessment Best Practice Guide for Wildlife at Risk in Canada. Prepared by Pauline Lynch-Stewart for the Canadian Wildlife Service, Ottawa. 72 pages,
- Environment Canada. 1998. Wetlands Environmental Assessment Guideline. By Robert Milko, Biodiversity Protection Branch, Canadian Wildlife Service. Ottawa. 20 pages. Internet: http://www.cws-scf.ec.gc.ca/publications/eval/wetl/index_e.cfm
- Environment Canada. 1998. Migratory Birds Environmental Assessment Guidelines. By Robert Milko, Biodiversity Protection Branch, Canadian Wildlife Service. Ottawa. Internet: http://www.cws-scf.ec.gc.ca/publications/eval/mig/index_e.cfm
- Environment Canada. 1997. Guide for Impact Assessment on Birds. By Serge Lemieux, editor, Environmental Assessment Branch and Canadian Wildlife Service, Quebec Region. 50 pages and appendices. Internet: <http://www.qc.ec.gc.ca/faune/faune/pdf/guidebirds.pdf>
- Environment Canada, 1991. Federal Policy on Wetland Conservation.
- Federal-Provincial-Territorial Committee on Climate Change and Environmental Assessment. 2003. Incorporating Climate Change Considerations in Environmental Assessment – General Guidance for Practitioners. Internet: http://www.ceaa-acee.gc.ca/012/014/climatechange_e.pdf
- Health Canada, 2004, Canadian Handbook on Health Impact Assessment, Volume 1 to 4. Internet: http://www.hc-sc.gc.ca/ewh-semt/pubs/eval/index_e.html
- Hegmann, G., C. Cocklin, R. Creasey, S. Dupuis, A. Kennedy, L. Kingsley, W. Ross, H. Spaling and D. Stalker. 1999. Cumulative Effects Assessment Practitioners. Prepared by AXYS Environmental Consulting Ltd. and the CEA Working Group for the Canadian Environmental Assessment Agency, Hull, Quebec. Internet: http://www.ceaa-acee.gc.ca/013/0001/0004/index_e.htm
- Lemmen, D.S., Warren, F.J., Lacroix, J., and Bush, E., editors (2008): From Impacts to Adaptation: Canada in a Changing Climate 2007; Government of Canada, Ottawa, ON, 448 p.
- Wright, D.G. and G.E. Hopky. 1998. Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters. Can. Tech. Rep. Fish. Aquat. Sci. 2107. Internet:

http://www.dfo-mpo.gc.ca/canwaters-eauxcan/infocentre/guidelines-conseils/guides/explosguide/pdf/explos_e.pdf.

APPENDIX A – Requirements of an Environmental Impact Statement under the Environmental Protection Act, Section 57 and Assessment by a Review Panel under the Canadian Environmental Assessment Act, Section 16

APPENDIX B –Requirements for Public Meetings

APPENDIX A***Environmental Protection Act*****Section 57 - Environmental Impact Statement**

57. An environmental impact statement shall be prepared in accordance with the guidelines, and shall include,

- (a) a description of the undertaking;
- (b) the rationale for the undertaking;
- (c) the alternative methods of carrying out the undertaking, and the alternatives to the undertaking;
- (d) a description of the
 - (i) present environment that shall be affected or that might reasonably be expected to be affected, directly or indirectly, by the undertaking, and
 - (ii) predicted future condition of the environment that might reasonably be expected to occur within the expected life span of the undertaking, if the undertaking was not approved;
- (e) a description of
 - (i) the effects that would be caused, or that might reasonably be expected to be caused, to the environment by the undertaking with respect to the descriptions provided under paragraph (d), and
 - (ii) the actions necessary, or that may reasonably be expected to be necessary, to prevent, change, mitigate or remedy the effects upon or the effects that might reasonably be expected upon the environment by the undertaking;
- (f) an evaluation of the advantages and disadvantages to the environment of the undertaking, the alternative methods of carrying out the undertaking and the alternatives to the undertaking;
- (g) a proposed set of control or remedial measures designed to minimize any or all significant harmful effects identified under paragraph (e);
- (h) a proposed program of study designed to monitor all substances and harmful effects that would be produced by the undertaking; and
- (i) a proposed program of public information as required under section 58.

*Canadian Environmental Assessment Act***Section 16 - Factors to be considered**

16. (1) Every screening or comprehensive study of a project and every mediation or assessment by a review panel shall include a consideration of the following factors:

- (a) the environmental effects of the project, including the environmental effects of malfunctions or accidents that may occur in connection with the project and any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out;
- (b) the significance of the effects referred to in paragraph (a);
- (c) comments from the public that are received in accordance with this Act and the regulations;
- (d) measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the project; and
- (e) any other matter relevant to the screening, comprehensive study, mediation or assessment by a review panel, such as the need for the project and alternatives to the project, that the responsible authority or, except in the case of a screening, the Minister after consulting with the responsible authority, may require to be considered.

Additional factors

(2) In addition to the factors set out in subsection (1), every comprehensive study of a project and every mediation or assessment by a review panel shall include a consideration of the following factors:

- (a) the purpose of the project;
- (b) alternative means of carrying out the project that are technically and economically feasible and the environmental effects of any such alternative means;
- (c) the need for, and the requirements of, any follow-up program in respect of the project; and
- (d) the capacity of renewable resources that are likely to be significantly affected by the project to meet the needs of the present and those of the future.

APPENDIX B**Department of Environment & Conservation
Environmental Assessment Division****ADVERTISEMENT REQUIREMENTS FOR PUBLIC MEETINGS /
INFORMATION SESSIONS**

Purpose: To clarify for staff, proponents, public interest groups, etc. the types, timing, number, notification requirements, etc. for public consultations in relation to undertakings required under the *Environmental Protection Act, SNL 2002 cE-14.2*, (Section 58) to prepare an Environmental Impact Statement (EIS) or required under the *Environmental Assessment Regulations, 2003* (Section 10) to prepare an Environmental Preview Report (EPR).

1. The Proponent is not required to conduct public meeting(s) (information sessions) under an EPR process unless specifically required to do so in the project Guidelines. This requirement shall be at the Minister's discretion, based upon advice from the Assessment Committee (AC) as provided by the Chairperson, taking into account the level of expressed public interest.
2. The Proponent is always required to conduct public meeting(s) (information sessions) under an EIS process as specified in the Legislation. This requirement shall be specified in the project Guidelines.
3. When required, a public meeting shall normally be held in the largest local population centre within the project area. This shall be the minimum requirement. In addition, when demonstrated public interest or concern warrants, additional meetings may be required. This may take the form of additional meetings to be held in major regional or provincial population centres, or possibly additional meetings within the original community. Such requirements are at the discretion of the Minister based on consensus advice from the AC Chairperson, and based upon public interest as evidenced by public submissions received.
4. The requirements for the location of public meetings may be modified for projects proposed within areas where there is an assertion of potential aboriginal or treaty rights, excluding projects located entirely within municipal boundaries. In such cases, a public meeting may specifically be required in an appropriate aboriginal community which has a direct interest in the land claim. Such a meeting may be required in addition to others required under #3 (above). The Proponent may be required to provide appropriate translation services for such meetings. This provision is subject to alternate direction relating to dealings with aboriginal groups which may be imposed by government under special circumstances.
5. The format of the public meeting may be flexible, and the Proponent is free to propose a suitable format for approval by the AC. The format may

range from formal public meetings chaired by the Proponent or representative with presentations followed by questions and answers, to a less formal open house forum where the public may discuss the proposal with the Proponent or representatives. Other formats may be considered by the AC. The purpose of the public information session is to 1) provide information concerning the proposed undertaking to those who may be affected, and 2) to record the concerns of the local community regarding the undertaking. Any format must meet these objectives.

6. The Proponent must ensure that each public meeting is advertised in accordance with the following specified public notification requirements, which shall form part of the project Guidelines when appropriate:
 - Minimum information content of public advertisement - (Proponent to substitute appropriate information for italicised items):

PUBLIC NOTICE

Public Information Session on the Proposed

Name of undertaking
Location of undertaking

shall be held at
Date and Time
Location

This session shall be conducted by the Proponent,
Proponent name and contact phone number,
as part of the environmental assessment for this Project.

The purpose of this session is to describe all aspects of the proposed Project, to describe the activities associated with it, and to provide an opportunity for all interested persons to request information or state their concerns.

ALL ARE WELCOME

- If translation services are to be provided as per #4 (above), then the ad should specify this fact and the languages to be used for the session.
- Minimum newspaper ad size: 2 columns wide.
- Minimum posted ad size: 10 cm x 12 cm.
- Minimum newspaper ad frequency (to be run in newspaper(s) locally distributed within each meeting area or newspaper(s) with the closest local distribution area):
 - For dailies, the weekend between 2 and 3 weeks prior to each session and the two consecutive days prior to each session, OR

- For weeklies, in each of the two weeks prior to the week in which the session is to be held.
- Minimum posted ad coverage: In the local Town or City Hall or office, and the local post office, within the Town or City where the meeting is to be held, to be posted continually for not less than 15 days prior to each session.
- Any deviation from these requirements for any reason must receive the prior written approval of the Minister.
- The Proponent must provide the Chairperson of the AC with copies of advertisements and public notices.